

Sony Broadcast BVH 1100 PS

1 INCH OMEGA FORMAT VIDEOCORDER

CAPTURING THE LIVING IMAGE...



Sony Broadcast Equipment ... Flexibility in System Design

The BVH-1100PS is supported by a complete range of associated equipment. Each unit is designed as part of a unified, 1-inch format recording system.

The BVP-300 three-tube camera. Extensive use of automatic control techniques ensure its outstanding picture quality is maintained, even in the most difficult operating conditions. Unique pre-amp FET's have been developed to give remarkable low light performance. Weighing less than 6 kg, it requires no separate back-pack.

And the BVH-500PS portable 1-inch Videocorder, too. EBU type 'C' format, integrates with the BVP-300 camera for field use — with recordings directly interchangeable with the BVH-1100PS. Up to one hour's continuous recording with a self-contained battery, three audio tracks and a built-in time code generator — all in one 22 kg weatherproof unit.

Digital Time Base Corrector — BVT-2000P/S. Designed to exploit to the full the advanced features of the BVH-1100PS Videocorder. Digital drop out compensation, chroma noise reduction



and up to a 20 line window correction range are just some of the features of this outstanding TBC.

BVG-1000 Time Code Generator/Reader. Not only a time code generator/reader and character generator, the unit can also add time code into the vertical interval of a video signal being recorded. Used with the BVH-1100PS Videocorder, time code can be read off tape at any speed from still frame to 128 times normal.

For the ultimate in video tape editing, the Sony Broadcast BVE-5000 microprocessor controlled system will control up to four playback BVH-1100PS Videocorders from a list of 500 different editing operations entered into its memory. The IF-1000CE interface unit allows direct connection of a BVH-1100PS Videocorder to a BVE-500 ACE editing control unit — extending the use of the Videocorder to include editing from U-matic to 1 inch formats.

Sony Broadcast V-16 series tape, for unsurpassed picture and sound recording. Precisely dispersed, high coercivity magnetic particles give extended frequency response and excellent signal/noise performance. And an exclusive back coating improves tape durability with lower dropout and reduced head wear.

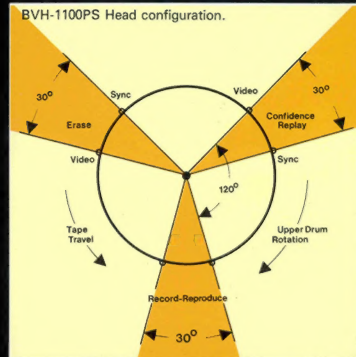
The Unique Sony Broadcast BVH 1100 PS 1 inch Videocorder for EBU type 'C' format



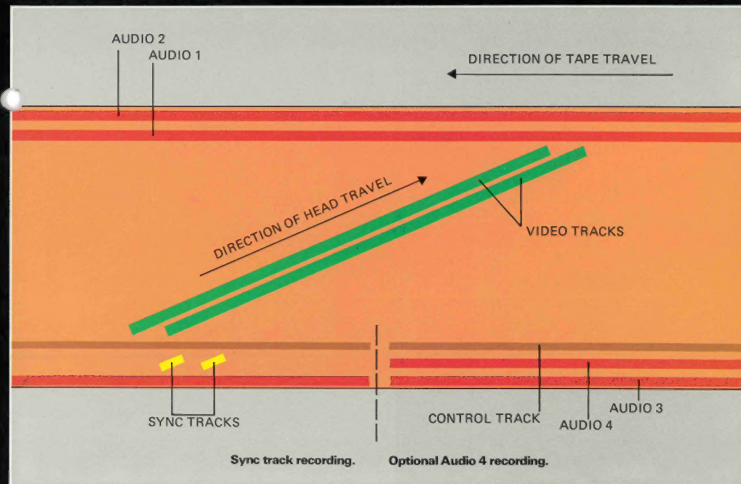
As a design philosophy, all Sony 1 inch format Videocorders can record and playback the complete, unmodified, television waveform. In its standard operating mode, the BVH-1100PS accomplishes this with the proven 'one and a half head' recording technique — a primary video head handles all the active picture lines and part of the vertical interval while the half, or sync, head records the remaining part of the vertical interval. In this way all the information contained in the television field is accurately recorded and reproduced — including test signals, teletext, time code or any other information in the vertical interval.

In the BVH-1100PS a second pair of heads is added to give confidence replay of both picture and sync information during recording, while two further heads provide precise erasure of video and sync tracks for editing.

In the EBU 'C' format, the recording of the full vertical interval is optional and the area of tape scanned by the sync head can be used for a fourth audio track. The BVH-1100PS is fully compatible with this format. Its video processing circuitry reconstitutes the missing lines of information when replaying a tape recorded without vertical sync; and when the fourth audio track option is fitted to the Videocorder its use inhibits the recording of the sync track.



Track positions in the EBU Type C format, showing how the optional Audio 4 track replaces the sync track.



The world's finest technology at your fingertips

BVH 1100 PS

1 INCH OMEGA FORMAT VIDEOCODER

The BVH-1100PS is a 1 inch helical scan Videocorder, conforming to the EBU Type C format. It features built in electronic editing, optional Dynamic Tracking for broadcast quality slow and stop motion replay, confidence video replay, BIDIREX tape control system for rapid edit point location and three programme audio tracks — with an optional fourth track.

Operational Features

Video

The BVH-1100PS operates on both 625-line PAL and SECAM standards. A sync mode selector switch gives either manual or automatic selection of input video/reference video. In the Auto mode, input video is selected during recording and reference video during playback. Selectable 8 field colour/4 field/2 field framing is provided as a standard feature.

Two video outputs are provided, together with a sync output. A multipin connector carries all necessary signals to interface the BVH-1100PS with a Sony Broadcast BVT-2000P/S Time Base Corrector; separate outputs of TTL level frame pulse and tape drop out signal are also provided. This drop out signal can be selected to be either RF off tape or a TTL level pulse.

Confidence Replay

Broadcast quality confidence replay of video and sync tracks during recording is provided by a second pair of heads mounted on the video head drum — making it unnecessary to record important programme material in duplex.

Monitoring

Input Video, Demod. Out, Control Track Out, RF Envelope, Audio Monitor Selector Output and an external video input may be selected to the video monitoring output. A front panel meter indicates either video recording level or RF level.

Audio and Time Code

Three programme audio tracks are provided as standard, each with input and output level controls. Channel 3 may be used as a cue track, a microphone input jack on the front panel takes priority over the line input.

An optional EBU time code generator/reader can be fitted for time code recording on Channel 3. In the BIDIREX search mode, this channel is switched to wide band replay to allow recovery of time code at maximum search speed.

Audio 4

The EBU Type C format permits a fourth audio track to be located in the area of tape normally used for the sync track. An alternative head stack and audio circuitry for this fourth audio track can be fitted as a factory option. When Audio 4 is in use, sync track recording is inhibited, and on playback the missing lines of the vertical interval are reformed by the video playback processing circuitry.

Monitoring

A peak reading meter is provided for audio Channels 1 to 3; output levels are indicated when the machine is in the play mode, in other modes the meters read recording level. A monitoring output is fed from a front panel selection of Channel 1, Channel 2, Channel 1 & 2 and Channel 3. The Channel 1 & 2 position is used to monitor Audio 4 when this option is fitted, and the programme meter for Channel 3 can be switched to read this additional track.

BIDIREX

Rapid location of precise points in a recording is vital for fast, accurate editing.

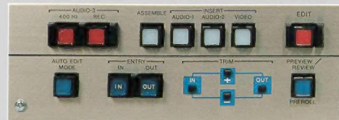
Sony Broadcast's exclusive BIDIREX tape control system meets this need with two distinct modes of operation — Shuttle and Jog. In the Shuttle mode, the tape can be fast wound in either direction and, through a Sony Broadcast BVT-2000P/S TBC, recognisable colour pictures are preserved at up to ten times normal speed — and even up to 50 times in monochrome. With the Jog mode selected, the tape reels faithfully follow the rotation of the BIDIREX control knob, in either direction, at up to a maximum of five times normal tape speed. Two complete frames of the recording are scanned for every turn of the control — and all the time the BVH-1100PS provides a locked colour picture. This tape control system makes location of precise edit points a very rapid process — the Shuttle mode used to find the approximate point on the tape and the Jog mode then selected to find the precise frame.



Editing

As well as providing manual control of insert and assemble editing, the BVH-1100PS includes an automatic editing control system. It features:

- Selection of edit 'in' and 'out' points and automatic storage of decisions.
- Frame by frame adjustment of edit points.
- Pre-selection of assemble or insert modes.
- Preview/review button which automatically rewinds video tapes beyond an edit point to preview an edit decision, or review a completed edit.
- Initiation of editing commands from the record machine.
- Effectively zero delay between video and audio events.



Editing Control Panel.

Tape Timers

Two tape timers, acting independently from a tape driven counter but with a common display, provide a variety of time keeping systems. Timer 1 can be reset to zero at any time, Timer 2 is reset whenever tape is unlaced from the machine. The zero memory function brings tape to a gentle stop at zero counter reading — with fully automatic deceleration from either fast forward or rewind to prevent damage or loss of tape leader.

With the optional EBU time code reader/generator fitted, Timer 1 can also be used to read time code and user bit information.



Dynamic Tracking

A powerful option on the BVH-1100PS is Dynamic Tracking. Although its advanced tape transport servo systems and extremely accurate tape guides, together with a TBC, will provide locked pictures over a wide speed range, broadcast quality slow and stop motion replay requires further refinement in head to tape positioning.

Dynamic Tracking provides this extra degree of refinement — giving full broadcast quality pictures over a range of one fifth normal speed in reverse, through still frame, to twice normal speed forward.

This speed range is varied by the BIDIREX control knob when the DT playback mode is selected and the 'Jog' button pressed. As an added feature, the replay speed can be changed from normal to a speed pre-set on the BIDIREX control knob, and back again, by alternately pressing the 'Jog' and 'Play' buttons. All these transitions are made without any picture disturbance.

Dynamic Tracking facilities can be increased still further by use of an optional 'Slo-Mo' remote control unit.

Mechanical Design

The outstanding mechanical design of all BVH series Videocorders and their manufacture to very tight tolerances ensures complete tape interchangeability between every machine.

The tape transport of the BVH-1100PS does not use any drive belts — five direct coupled, servo controlled motors drive the video head drum, drive and tension capstans and both tape reels. The wide lock range of the highly stable drum servo maintains precise phase control during all edit transitions; whilst the reel servo system co-ordinates direction and speed of reel rotation, and the amount of tape on the reels, to prevent tape damage during fast editing.

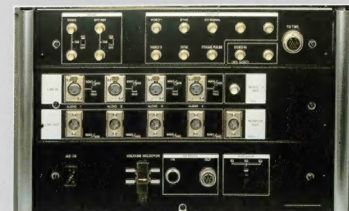
The overall mechanical arrangement of the BVH-1100 has been designed to give long-term reliability and ease of routine maintenance. Video head replacement, for example, is achieved by changing the entire upper video head drum which then requires only one simple mechanical check to be made. Apart from video heads, all other components have been chosen for a target MTBF of 3000 hours. The entire BVH-1100P/S can be separated into five sub-units, each one of which will fit into a standard 19 inch equipment rack, enabling them to be used in a variety of configurations to suit individual users operational needs.

Capstan Override

When programme requirements demand duplex playback by two BVH-1100PS Videocorders, perfect synchronisation can be achieved by holding down the Play button on the reserve machine and operating its BIDIREX control until synchronous playback is reached.

Remote Control

All basic machine functions, including those for insert and assemble editing, tape timers and status lamps, can be remotely controlled via a digital command system.



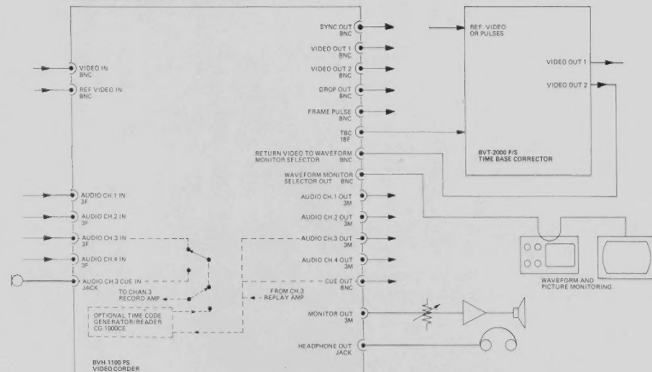
BVH-1100PS rear connector panel.



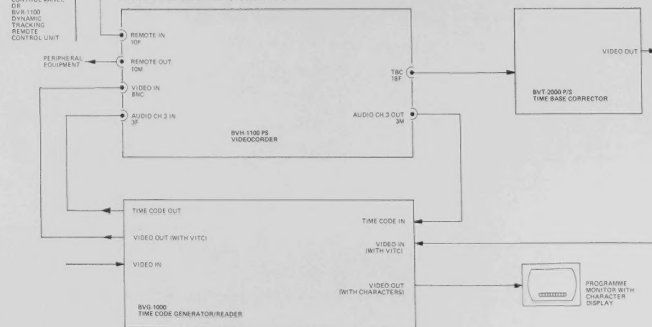
Controls for routine adjustments are located on the operators set-up panel. Differential gain and phase controls allow precise matching of record/playback and confidence playback.

Typical Systems Configurations

OPERATION WITH BVT-2000/P TIME BASE CORRECTOR



OPERATION WITH BVG-1000 TIME CODE GENERATOR/READER AND REMOTE CONTROL



Performance Data and Specification

VIDEO

Recording System

1.5 head, high band, direct FM recording
7.6-8.9 MHz
23.98 cm/s (9.44 in/sec)

Tape Speed

21.39 m/s (842 in/sec)

Writing Speed

30 Hz-5.5 MHz ± 0.5 dB -3 dB at 6.0 MHz

Signal/Noise Ratio

44 dB record/playback 43 dB interchanged tape

Differential Gain

4% (with Sony Broadcast BVT-2000/P TBC)

Differential Phase

4% (with Sony Broadcast BVT-2000/P TBC)

LF Linearity

2%

Transient Response, 2T Pulse

Less than 1%K

Moire

-35 dB (75% colour bars)

Luminance/Chrominance Delay

25 ns

Time Base Stability

1.5 μ s p-p (V Lock mode)

Video Input

1 V p-p, ± 0.3 V, 75 ohms or bridging

Reference Video Input

1 V p-p, ± 0.3 V, 75 ohms or bridging

Video Outputs

Two at 1 V p-p, 75 ohms

Sync Output

2 V p-p, 75 ohms

Waveform Selector Output

Output level according to source selected, 75 ohms

Frame Pulse Output

TTL level

Drop-out Signal Output

TTL level drop-out pulse or RF output, selectable

Waveform Monitor Selector

Input video, demod out, spare, control track, RF envelope, audio selector out

Servo Lock Reference Selector

Reference video, auto, input video

Servo Lock Mode Selector

8 field colour framing, 4 field, 2 field

AUDIO

Frequency Response

Ch1-Ch4, 200 Hz-7.5 KHz ± 1 dB 50 Hz-15 KHz
 ± 1.5 dB, -3 dB at reference level
(100 nWb/m tape flux)

Signal/Noise Ratio

Ch1, 2 and 4 56 dB Ch3 50 dB. Referred to 3% distortion level at 1 kHz (RMS, unweighted)

Distortion

Ch1-Ch4, 1% at 100 nWb/m tape flux

Crosstalk

Ch1-Ch4, -60 dB between any two tracks at 1 kHz

Wow and Flutter

0.1% RMS, 0.5-200 Hz, NAB, unweighted

Inputs

Ch1, 2 and 4, -10 to +20 dBu, 600/10K ohms, balanced, or -50 dBu, high impedance, unbalanced at cue mic input

Line Outputs

Ch1-Ch4, +8 dBm into 600 ohms, balanced (can be adapted for 150 ohms operation)

Time Code Output

Ch3, 0.5 V p-p, 75 ohms

Monitor Output

-10 dBm into 600 ohms, balanced

Monitor Selector

Ch1-Ch4

Headphone Output

8 ohms, unbalanced

ELECTRICAL

Power Requirements

100/120/220/240 V $\pm 10\%$ 50/60 Hz

Power Consumption

700 W maximum

GENERAL

Operating Temperature

5°C to 40°C

Humidity

10-90% (non-condensing)

Lock-Up Time

Less than 3 sec

Recording Time

1 hour 37 minutes with 10.5 inch reel

Fast Forward/Rewind Time

2 minutes maximum with 1 hour tape

Recommended Tapes

Sony Broadcast V-16 series

Reel Size

9.5 or 10 inch reel, NAB type

Tape Timers

Selectable display (hours, minutes, seconds and frames) of either: Timer 1 — EBU Time Code/User Bit/Tape driven counter, Timer 2 — Tape driven counter, not re-settable by timer reset switch

Optional Facilities

Dynamic Tracking, 4th audio track (factory option), CG-1000CE EBU time code reader/generator unit

ACCESSORIES

Included

Mains lead, Take-up reel, PC extender board, Operation and maintenance manual

Optional

BVR-1000, Remote control unit, BVR-1100 Dynamic Tracking remote control unit, Rack mounting kit, Console mountings

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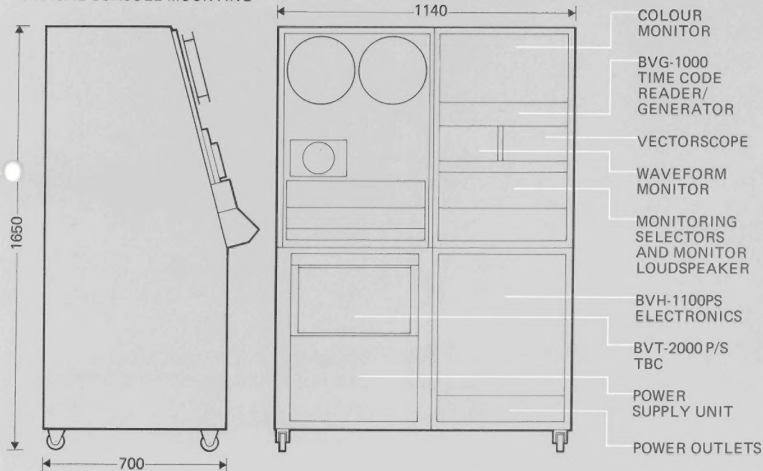
Dynamic Tracking, 4th audio track (factory option), CG-1000CE EBU time code reader/generator unit

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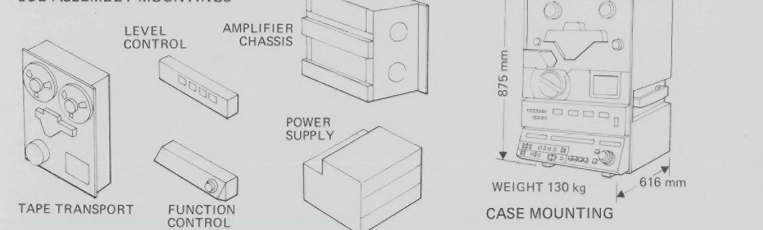
Dynamic Tracking, 4th audio track (factory option), CG-1000CE EBU time code reader/generator unit

Dimensions and Mechanical Configurations

TYPICAL CONSOLE MOUNTING



SUB ASSEMBLY MOUNTINGS



Unit	Size (WxHxD) (mm)	Weight (Kg)
1 Tape Transport	558 x 598 x 259	44
2 Function control	558 x 133 x 186	6
3 Amplifier chassis	482 x 532 x 373	23
4 Power supply	482 x 354 x 460	31
5 Level control	558 x 111 x 131	4

Contact your local
Sony Distributor
or write to



Sony Broadcast Ltd.

City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

SPECIFICATION

INPUT SIGNALS

Video to be corrected
Reference video
Sync

Sub-carrier (BVT-2000P)

PAL ident (BVT-2000P)

1/4H (BVT-2000S)

Drop Out Signal

1.0V \pm 3dB, 75 ohms
1.0V \pm 3dB, 75 ohms or bridging
2.0V \pm 3dB, 75 ohms or bridging
1.0V \pm 6 dB, 75 ohms or bridging
2.0V \pm 3dB, 75 ohms or bridging
2.0V \pm 3dB, 75 ohms or bridging
Drop out pulse, TTL level or RF
off tape, 0.5V \pm 3dB, 75 ohms

OUTPUT SIGNALS

Video 1 & 2

Video 3

Advance Sync

Sub-carrier

1.0V, composite video, 75 ohms
1.0V composite video or 0.7V
non-composite, switchable,
75 ohms
2.0V \pm 0.4V, 75 ohms
1.0V \pm 0.2V, 75 ohms

VIDEO

Bandwidth

Signal to noise ratio

\pm 0.4dB to 5.8MHz
58dB p-p video to RMS noise,
weighted

Differential gain

Differential phase *

Transient response

(2T pulse)

Correction range

2%
2°
1% K

4 lines p-p (standard)
20 lines p-p (with optional
memory boards)
Colour \pm 3.0ns
Monochrome \pm 15ns
 \pm 20ns

Residual error *

Chrominance/Luminance
delay *

CONTROL RANGES

Output video level

Chroma level *

System sub-carrier phase *

System sync phase

Video phase *

Differential phase *

Differential gain *

Luminance/Chrominance

delay compensation

Vertical interval signal

suppression range

\pm 3dB
 \pm 3dB
Greater than 360°
 \pm 3.0us
 \pm 450ns
 \pm 8%
 \pm 8°
0, \pm 30, \pm 60, \pm 90ns

From line 6 to line 21, in 1 line
increments

* BVT-2000P only

POWER REQUIREMENTS

Power input

Power consumption

100/120/220/240V \pm 10%
48 — 64Hz
620W (including all options)

GENERAL

Operating temperature

Humidity

Weight

Dimensions

0°C — 40°C
10 — 90% non-condensing
40 kg
424mm wide
265mm high
583mm deep

ACCESSORIES

Included

Optional

Power cable
PC extender board
Rack mounting kit (for static
applications)
3 metre BVT-2000P/S to
BVH-1100PS interconnecting
cable, type CCY-3
Memory boards for Dynamic
Tracking, BK-2002
Hetrodyne process mode board
BK-2004 (PAL)
BK-2005 (SECAM)
CCY-10 (10 metre) and CCY-25
(25 metre) BVT-2000P/S to
BVH-1100PS interconnecting
cable

Design & specification may be subject to change without notice.

Contact your local
Sony Distributor
or write to

SONY
Broadcast

Sony Broadcast Ltd.
City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

20-2000-903/4

BVT-2000 P (PAL) BVT-2000 S (SECAM)

Digital time base corrector

SONY
Broadcast



The BVT-2000P (for PAL system operation) and the BVT-2000S (SECAM) offer a range of facilities and a technical performance which place them in the forefront of Time Base Corrector technology. Designed for use with both the Sony one-inch BVH-1100PS Videocorder and high-band U-matic Videocassette recorders, the BVT-2000P/S permits full exploitation of the advanced features of these machines. Coherent pictures at up to 10 times play speed in colour and 50 times in black/white are provided from BVH-1100PS machines. The BVT-2000P/S also allows full advantage to be taken of the BVH-1100PS Dynamic Tracking option — giving broadcast quality still-frame and slow motion colour pictures from one fifth speed in reverse to twice play speed forward.

FEATURES

Wide Correction Window

The standard correction range of the BVT-2000P/S is 4 lines p-p. When fitted with optional memory boards for Dynamic Tracking this correction range is increased to 20 lines. Even if the VTR time base error exceeds the correction range, the BVT-2000P/S handles the signal without sync break or horizontal picture movement.

High Sampling Rate A/D Converter

Sampling rate is four times sub-carrier, for increased video bandwidth and improved K-factor.

Velocity Error Compensation*

Line by line velocity error compensation, together with a unique, high speed, automatic phase control circuit keeps the residual phase errors of PAL colour signals to within ± 3 ns.

Luminance/Chrominance delay compensation

Luminance/Chrominance delay can be compensated to within 15ns

Cable Compensation

Switchable compensation for input cable lengths of up to 25 metres is included

Differential Gain/Differential Phase Compensation*

The BVT-2000P provides compensation for $\pm 8\%$ of differential gain and 8% of differential phase

Chroma Noise Reduction*

Line adding techniques provide a 3dB improvement in chroma signal to noise ratio

Drop Out Compensation

An advanced digital drop out compensator replaces each luminance drop out with information from the previous line, not two lines ahead. Separation of signal into luminance and chrominance components by digital techniques does away with gain and phase adjustments.

Automatic Advanced Sync

The advanced sync generator in the BVT-2000P/S automatically keeps the phase of the VTR playback video in the centre of the error correction range window

Vertical Interval Signal Suppression

Noise or unwanted video information occurring in the vertical interval can be suppressed to blanking level. The suppression period starts at line 6 and can be increased in one line increments to extend the period to line 21.

Built In Sync Generator

An internal sync generator can be genlocked to an external video signal or to composite syncs, sub-carrier and PAL pulse or SECAM line sequence pulse, depending on model.

Video Processor

A built in video processor provides adjustment of video level, video phase, chroma level*, sub-carrier phase* and sync phase*.

Direct interface with BVH-1100PS Videocorder

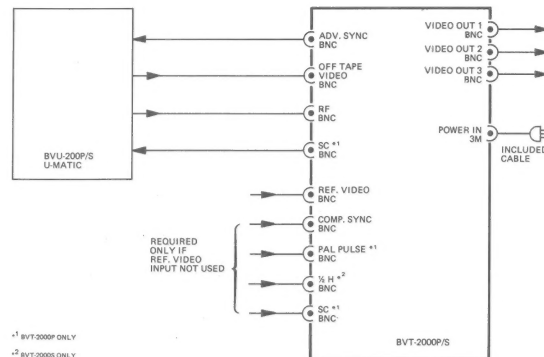
An 18 pin connector on the BVT-2000P/S and on the BVH-1100PS enables all necessary connections to be made by a single multi-way cable.

Optional Hetrodyne Colour Processing

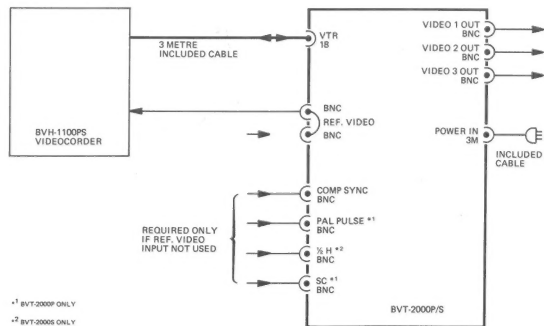
Optional hetrodyne board provides circuitry to restore the correct sync/sub-carrier phase relationship still during colour under recording process.

* BVT-2000P PAL version only

TYPICAL SYSTEM CONFIGURATIONS



OPERATION WITH BVU-200P/S U-MATIC RECORDER



OPERATION WITH BVH-1100PS VIDEOCORDER

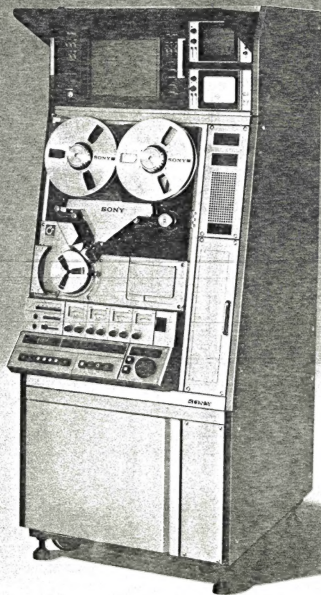
Sony
Broadcast

Console for the BVH-1100 Series

SU-280

The SU-280 is a console specially designed for the Sony BVH-1100 series, a 1" high-band VTR, and its associated video equipment. Sony products to be fitted into this console in addition to the BVH-1100 VTR are the BVM-1300 series color monitor, the BVT-2000 series time base corrector, a waveform monitor, and a vectorscope.

- The SU-280 is built compactly and takes only 0.8 m² of floor space.
- A built-in amplifier and a monitor speaker eliminate audio connections.
- To meet individual requirements, the SU-280 is provided with an open space for extra peripheral equipment.
- The SU-280 is equipped with casters for mobility.



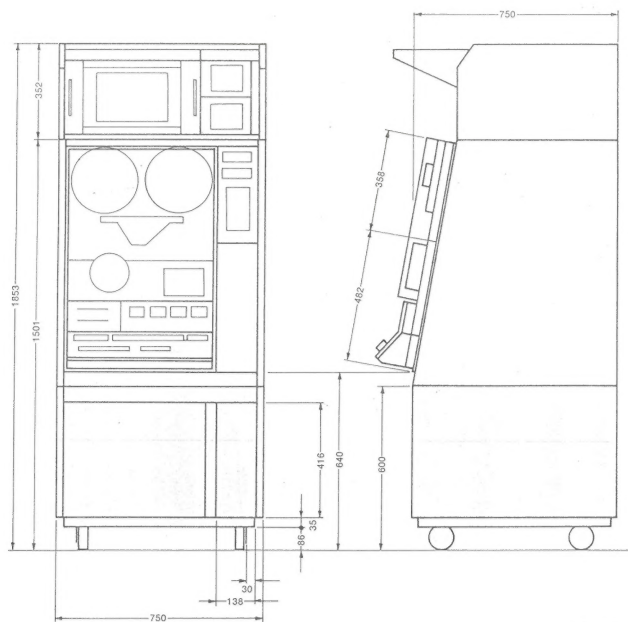
NOTE: The SU-280 is for use in Asia, Central- or South-America, and Oceania.

SONY®

Console for the BVH-1100 Series

SU-280

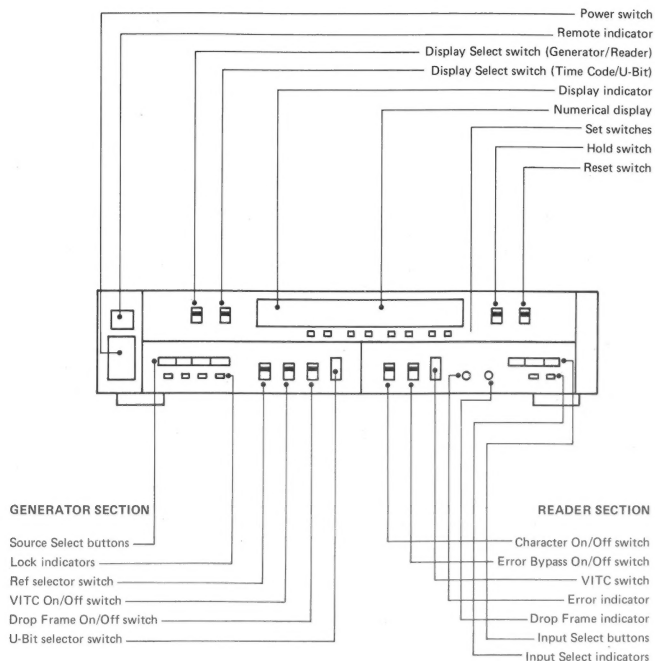
Dimensions



Unit: mm

FUNCTION CONTROL PANEL

COMMON SECTION



Contact your local
Sony Distributor
or write to



Sony Broadcast Ltd.
City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

7-1000-903/4

BVG-1000

Time code generator/reader



The Sony Broadcast BVG-1000 — a new approach to time code operation. In addition to functioning as a time code generator, it can also add time code into the vertical interval of a video signal. Automatic switching of the BVG-1000 reader section between this Vertical Interval Time Code (VITC) and standard time code, makes possible the recovery of recorded time code information from still frame to 128 times normal speed. A character generator facility gives a display of time code read out on a programme video monitor. The BVG-1000 can be switched to operate on PAL, SECAM or NTSC standards.

FEATURES

VITC Function	The BVG-1000 takes internal or external time code and provides a new time code encoded in the vertical interval of the video input signal. This Vertical Interval Time Code (VITC) allows frame identification in slow and still frame playback.
EBU/SMPTE Function	The BVG-1000 performs standard time code generator/reader functions.
Character Function	For increased flexibility, the BVG-1000 provides character generation on a programme video monitor. The size and position of the character display can be varied.
Wide Readout Capability	Time code readout is possible from still frame to 128 times normal speed in forward and reverse. Time code readout is possible in any mode with Sony Broadcast BVU-200P/S or BVH-1100PS recorders.
Slave/Jam Sync	The BVG-1000 provides slave-jam sync capability with incoming standard time code or VITC.
User Bits	The unit generates user bits and also provides a read out of both generator and reader user bits.
Interface with External Equipment	A data in/out connector carries reader/generator time code and other information to the BVG-1000, allowing it to be interfaced with video switching equipment, VTR editing systems, etc.

SPECIFICATION

EBU/SMPTE TIME CODE

Input 1	0.5 — 10 v p-p, 600/3K ohms, balanced
Input 2	0.15 v — 2.2 v p-p, 75 ohms, unbalanced
Output	0 — +8 dBm (internally adjusted), into 600 ohms, balanced

VERTICAL INTERVAL TIME CODE

Amplitude of encoded time code	350 mv
Position	Between lines 7 (320) and 22 (335) (internally adjusted)
Bit rate	1.79 Mbit/s

TIME CODE READOUT RANGE

Overall	Still frame to 128 times normal speed in forward and reverse, switched automatically in auto mode between VITC and standard time code recorded on Audio Ch.3 or other longitudinal data track
VITC time code	Still frame to twice normal speed in forward and reverse
EBU/SMPTE time code	1/16 to 128 times normal speed in forward and reverse
VIDEO	
Video input	1 v p-p, bridging or 75 ohms
Sync input	2 v p-p, bridging or 75 ohms
Video output with VITC	1 v p-p, 75 ohms
LF tilt	1.5%
Linearity	1%
Differential gain	1%
Differential phase	1°
Transient response (2T pulse)	1% K
Frequency response	30 Hz — 6 MHz \pm 0.2 dB
Signal/noise ratio	60 dB p-p video to RMS noise, weighted

GENERAL

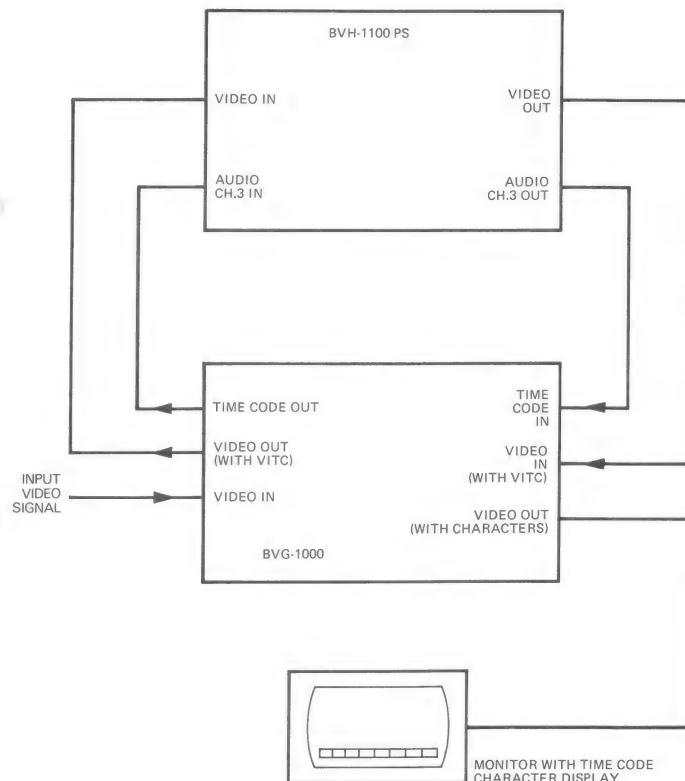
Power input	100/120/220/240 v, 48 — 64 Hz
Power consumption	100 W
Dimensions	424mm wide 88mm high 446mm deep
Weight	Approx. 13 kg

INCLUDED ACCESSORIES

PC extender board
Fixed power cable
Operation and maintenance manual
User designations, 1 — 10 and A — K
Rack mounting brackets

Design & specification may be subject to change without notice.

TYPICAL SYSTEM INTERFACE WITH BVH-1100 PS VIDEORECORDER



SPECIFICATIONS

GENERAL

Keyboard dimensions 600 mm wide
80 mm high
220 mm deep

Keyboard weight 6 kg

Control section dimensions 570 mm wide
1000 mm high
650 mm deep

Control section weight 120 kg

Operating temperature 5°C to 40°C

Storage temperature -10°C to 60°C

Power consumption 1200 VA

SYSTEM

CPU Unit 8-bit microprocessor

Operational system Two-way communications between keyboard and operator's display

Time Code EBU Time Code, VITC (Vertical Interval Time Code), automatic changeover system

DECISION MAKING

Edit point is selected automatically by the time code recorded on the tape (Mark in/Mark out) or directly by numbers (Set in/Set out)

Edit preview mode Video/Video/Video
Black/Video/Black
Video/Black/Video
Video/Video
Video/Black
Black/Video

AUTOMATIC EDITING

Automatic editing is done in sequence following the edit list. A look ahead search function minimizes the waiting time of the recording VTR.

Edit list 128 edits, with optional provision to extend to more than 500 edits in 128-edit units

Editing accuracy ± 0 frame

KEYBOARD

57 keys arranged in typewriter order
15 keys for number inputs and arithmetic operations
7 self-lighting keys
BIDIREX search control (shuttle, jog, Special Effects transition time)
Built-in alarm

OPERATORS DISPLAY

Scan system, 7 x 9 dot-matrix 64 characters x 24 lines

Monitor: B/W 625-line, high resolution

VTR CONNECTION

4 playback VTRs

2 record VTRs

(When BVU-200P/S and BVH-1100PS are used together, two of each can be connected as one group)

VTR operating modes

Fast forward, Rewind, Play, Stop, Pause (Still), Search (Shuttle/Jog), Rec (Insert/Assemble)
(Cameras can also be connected as live sources)

TELETYPE

Ink-spread type printer

Printing speed 33 characters/sec

Paper-tape reading speed 61 characters/sec (max)

Paper-tape punching speed 30 characters/sec (max)

Transmission speed 4900 Bit/s

(Using the Teletype, Dump, Load and Assemble can be done from the edit list; the memorized edit list can also be verified)

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Sony Broadcast Ltd.
City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

BVE-5000

Editing
control system

Preliminary



The BVE-5000 is a microprocessor controlled production editor for on-line or off-line applications, controlling up to four playback VTR's and two record machines. Over 500 edits can be stored in the system memory, including manually set-up dissolves and wipes. Editing sequences are displayed on an operator's monitor and the edit list can also be printed out on an associated teletype — either as hard copy or punched tape; edit data may also be entered from tape. Although primarily designed for use with the BVH-1100PS, the BVE-5000 can also be used with BVU-200P/S U-matic recorders for off-line editing applications.

FEATURES

An integrated broadcast editing system

The BVE-5000 contains its own resident operating programme in PROM's and is a system conceived for the specific needs of broadcast VTR editing.

BIDIREX tape control system

Sony Broadcast's exclusive BIDIREX control system provides both search and jog modes for rapid selection of edit points.

EBU Time Code plus Vertical Interval Time Code

The combination of longitudinal time code recording and VITC, with automatic changeover, allows time code to be read off-tape from still frame to maximum search speed. VITC readout enables edit in/out points to be marked even in still frame.

Automatic editing function

Depending on complexity of transitions, between 512 and 1000 edits can be entered into the BVE-5000's edit list memory. Editing is completely automatic and comments or notes can be added to the edit list memory.

Special Effects

The BVE-5000 can control a Special Effects switcher for dissolves, wipes, keying, etc. Special Effects operations are automatically performed in the required time interval; manually set-up effects and dissolves can also be entered into the memory.

Operator display

Input sequences are shown on the operator's monitor, and this also shows the operational sequence during editing, including a unique graphic indication of edit transitions.

Look ahead search

During automatic editing the next VTR in the sequence is placed in a pre-rolle mode well ahead. This look ahead facility reduces editing time.

Foolproof operation

Illogical or incomplete input instructions are automatically rejected and an alarm system warns the operator of incorrect commands. The BVE-5000 takes strict measures to protect the contents of the edit list. A sophisticated list management system ignores or deletes unwanted edit instructions.

Time Code Ripple-through

Ripple-through of time code information allows easy insertion of amendments into the middle of a completed editing sequence.

Teletype operation

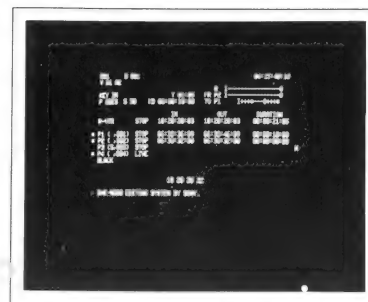
A high speed, ink spread, teletype can be connected to the BVE-5000 giving a hard copy printout. A tape punch/reader can also be used to read or input edit information.

Remote operation

Serial data input and output signals allow keyboard and teletype to be operated up to 50 metres from the system controller. The operator's display is fed by a standard 625-line signal.

System extension

The BVE-5000 control section uses a microprocessor with a common bus, allowing additional external equipment to be interfaced.

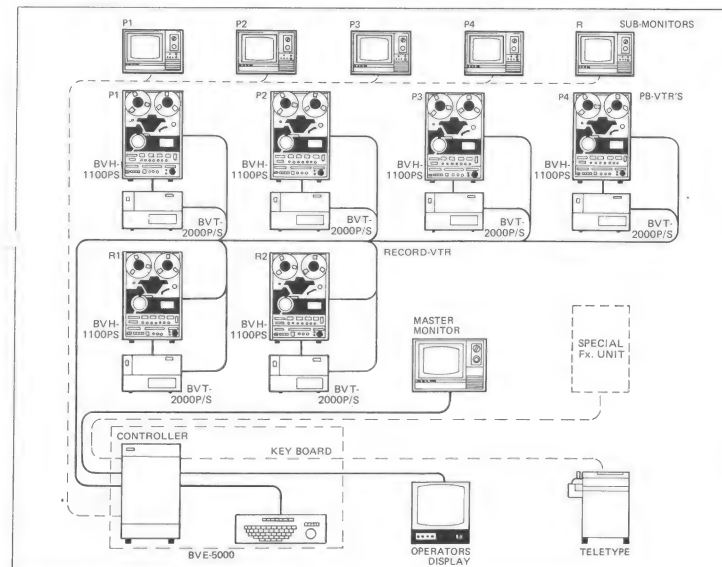


OPERATORS DISPLAY

The graphic indication of edit transition can be seen at the top right of the screen.



OPERATORS CONTROL PANEL



SYSTEM BLOCK DIAGRAM

IF-1000CE

Editing Interface
adaptor

SONY 
Broadcast



The Sony Broadcast IF-1000CE, an interface unit that combines the BVH-1100PS high band Videocorder with an advanced, economical editing console — the BVE-500ACE.

The IF-1000CE matches the BVH-1100PS and BVE-500ACE without any modifications. It brings together the performance and facilities of the 1 inch EBU type C format with all the editing advantages of the BVE-500ACE, the accepted unit for rapid, accurate editing on location and in the studio.

With the IF-1000CE, a BVE-500ACE can serve both U-matic and 1 inch editing operations. The IF-1000CE also allows editing between a BVH-1100PS and a BVU-200P/S U-matic recorder, using a BVE-500ACE.

It's all part of the Sony Broadcast approach; equipment to give complete system flexibility.

FEATURES

Versatile Interface	The IF-1000CE controls two VTR's simultaneously. The recorder side must be connected to a BVH-1100PS; the player side can be connected to either a BVH-1100PS or a BVU-200P/S U-matic Videocassette Recorder.
Automatic Editing	The IF-1000CE gives the BVH-1100PS recorder all the advanced features and capabilities of the BVE-500ACE Editing Console, including preview, memory function, edit point shift, automatic edit, review, etc. The BVE-500ACE delivers editing accuracy within ± 2 frames. In addition, Cut In/Cut Out point, frame corrector controls are available on the front panel of the IF-1000CE, to increase editing accuracy.
Search Speed Selection	The IF-1000CE can be set to deliver various search speeds from the "X2" setting on the BVE-500ACE's search control. Settings of X2, X5 and X10 are provided.

SWITCHES, INDICATORS

Power switch On/Off

Power indicator

Recorder side

Tape timer 1 reset switch
Tape timer 1, zero memory
On/Off switch
Servo lock input/video/ exit
sync switch
Edit timing compensation
controls (2 thumb wheels)
Similar to Recorder side

Player side

Mode preset switches

CONNECTORS

Recorder side

36-pin connector (female) for
BVE-500ACE
10-pin connector (male) for
BVH-1100PS

Player side

36-pin connector (female) for
BVE-500ACE
36-pin connector (female) for
BVU-200P/S
10-pin connector (male) for
BVH-1100PS

ACCESSORIES SUPPLIED

Two 10 m CCJ cables

Operation and Maintenance manual

SPECIFICATIONS

GENERAL

Power requirements	25v AC (supplied from BVH-1100PS main unit)
Dimensions	424mm wide 96mm high 470mm deep
Weight	Approx. 7.5 kg
Operating temperature	5°C to 40°C
Interface functions	All basic operations of BVE-500ACE
Editing accuracy	± 2 frames
VTR connections	Recorder — BVH-1100PS Player — BVH-1100PS or BVU-200P/S

Design & specification may be subject to change without notice.

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or write to

SONY
Broadcast



Sony Broadcast Ltd.

City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

BVR-1000

Remote control unit



The BVR-1000 has been developed as a remote control accessory for the Sony Broadcast BVH-1100PS 1 inch High-Band Videocorder. With the BVR-1000, all basic BVH-1100PS functions can be controlled from as far away as 200m. Status indicator lamps reflect mode, timer, and servo functions. In addition, the BVR-1000 permits simple automatic editing capability. Edit points on a BVH-1100PS recorder may be pre-rolled and parked awaiting an edit command. And Sony Broadcast's exclusive BIDIREX tape control system allows editing decisions to be made with a speed, ease, and simplicity comparable to 35mm film techniques.

FEATURES

- | | |
|----------------------------------|---|
| Full Control | The BVR-1000 gives remote control of the BVH-1100PS function control panel. |
| Preroll Button | Sets the BVH-1100PS to 'stand-by' at five seconds before the cue point. From there, two choices are possible:
1) Initiation of an automatic edit at the cue point after five seconds pre-roll.
2) Automatic playback after five seconds roll cue from studio or transmission switching systems. |
| Editing Capability | Two BVR-1000 remote control units with two BVH-1100PS recorders will provide simple automatic editing capability. |
| Rack Mounting | BVR-1000 installs easily into a standard 19 inch rack. |
| External Control Function | Permits extension of Play/Record/Stop and Stand-by functions and status indications. |

SPECIFICATIONS

GENERAL

- | | |
|---------------------------|---|
| Power requirements | 100/120/220/240V, 50/60 Hz |
| Power consumption | 40 W |
| Cable extension | Up to 200 m |
| Connector | 10-pin (CCJ type) |
| Dimensions | 424 mm wide
132 mm high
260 mm deep |
| Weight | 9.5 kg |

CONTROLS, INDICATORS

- | | |
|------------------------|---|
| Basic function | Record, Play, Stop, Standby |
| Edit function | Edit, assemble, insert mode select (Audio Ch.1, Audio Ch.2, Video) cue tone (400Hz), Cue record, E-E, Preroll |
| Search function | Shuttle, jog, search dial, mode indicator |
| Timer function | Timer indicator (Hours, Minutes, Seconds, Frame), Timer-1 reset switch, Timer-1/Timer-2 switch, zero memory switches (Timer On/Off, Timer-2 On/Off), auto stop lamp |
| Servo function | Capstan/drum/VH lock mode indicators, reference mode select switch (Ref video/Audio/Input video) |
| Other | Remote lamp and indicator of slave VTR number |

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Sony Distributor
or write to



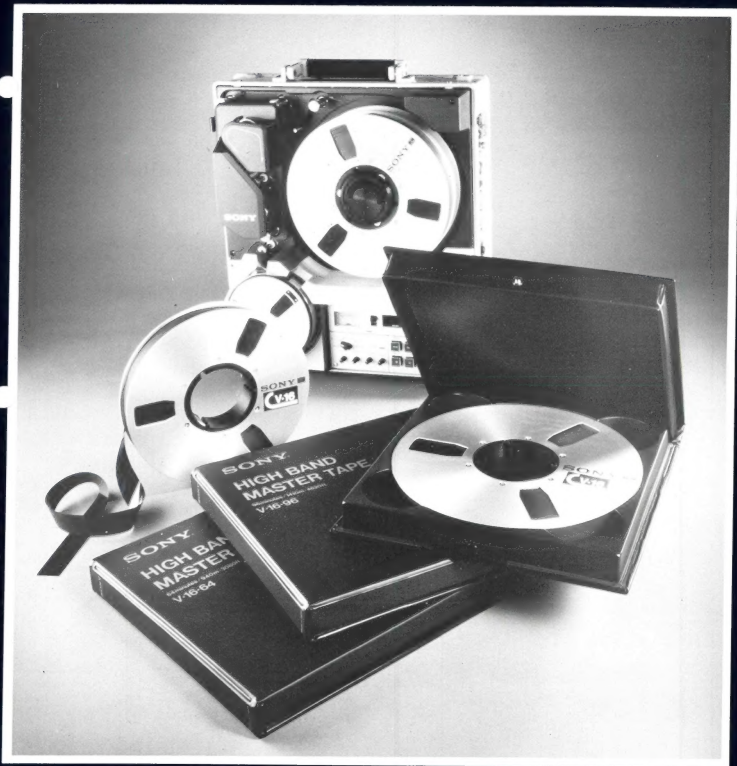
Sony Broadcast Ltd.

City Wall House
Basing View, Basingstoke
Hampshire RG21 2LA
United Kingdom
Telephone 0256 55011
Telex 85 84 24

V-16 SERIES

1 inch high band
master tape

SONY
Broadcast



The Sony Broadcast V-16 series is a group of newly developed high performance video tapes for 1 inch format broadcast VTRs.

FEATURES

Unsurpassed Picture and Improved Sound

Extended frequency response achieved through the use of high coercivity magnetic particles. High-resolution picture and high-fidelity sound due to increased density of magnetic layers. Excellent S/N assured by precisely uniform dispersion of magnetic particles, as well as perfectly dust-proofed special surface treatments.

Advanced Back Coating

Sony Broadcast's exclusive coating gives durability and improved handling convenience, while substantially reducing dropout and abrasion of VTR heads caused by scratching, etc. It allows stable tape transport without any irregularities or winding abnormalities even in the fast forward and rewind modes. And no worry about windowing and other kinds of physical wear during transportation or long storage periods.

SPECIFICATIONS

PERFORMANCE

Video signal-to-noise ratio	OdB *
Dropouts	Less than 20 per min
Audio signal-to-noise ratio	OdB *
Audio uniformity	± 1 dB

* compared to the standard tape

MAGNETIC PROPERTIES

Oxide orientation	Longitudinal
Intrinsic coercive force	600 oersteds
Retentivity	1,300 Gauss
Squareness ratio	0.86

PHYSICAL PROPERTIES

Base material	Back treated polyester
Total thickness	30 μ m (1.18 mil)
Width	25.40 \pm 0.1 mm

Ultimate tensile strength	11 kg
Yield strength	6.4 kg
Residual elongation	0.1%

LOADED LENGTHS AND PLAYTIME

Designation	Tape length m (feet)	Guar. play time (min.)	Reel size cm (inch)
V-16-96	1,410 (4,626)	97	26.7 (10.5)
V-16-64	940 (3,084)	65	22.9 (9)

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